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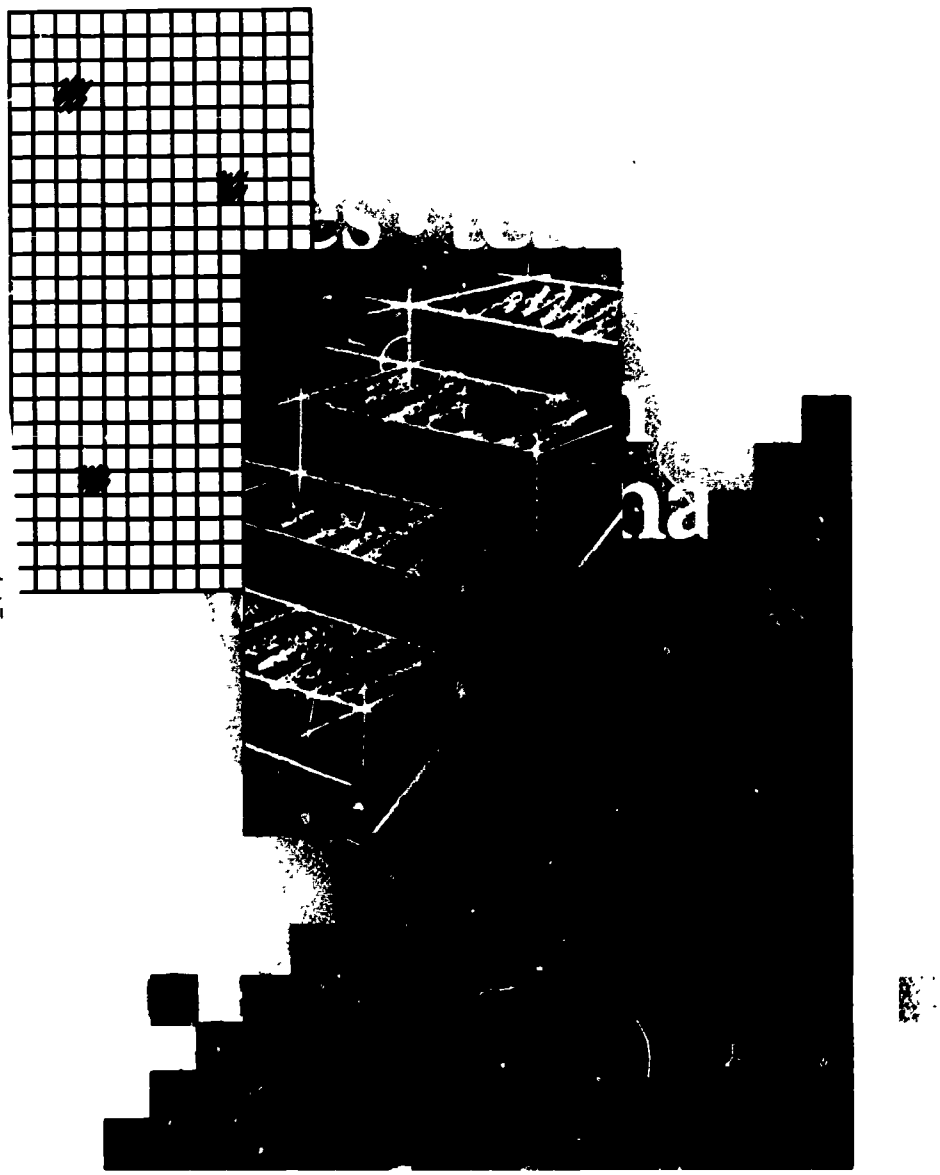
ABSTRACT

A two-year research project was conducted to determine the skills employers consider necessary for the workplace. Recent changes in the economy have made employers begin to realize that they must assist their current and future workers in achieving competency in workplace basics if they are to be competitive. Employers have come to realize the undeniable linkage between work force skills and the competitive cycle and the importance of basic skills in the face of rapid technical change. The following skills have been recognized as being extremely important: learning skills; basic skills (reading, writing, computation); listening and oral communication; adaptability (creative thinking, problem solving); personal management (self-esteem, goal setting/motivation, personal/career development); group effectiveness (interpersonal skilll, negotiation, teamwork); and influence (organizational effectiveness and leadership). An applied approach to developing a program to deliver workplace basics must include the following steps: identify and assess problems; build support; propose a plan; perform a task analysis; develop and design a curriculum; and implement, evaluate, and monitor the program. (MN)

Workplace Basics:

THE SKILLS EMPLOYERS WANT



The American Society for Training & Development

U.S. Department of Labor
Employment & Training Administration

Workplace Basics:

THE SKILLS EMPLOYERS WANT

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Workplace Basics

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PREFACE

This publication summarizes a portion of the research conducted under a two-year joint project of the American Society for Training and Development and the U. S. Department of Labor. It represents a brief overview of the findings from our basic workplace skills research. More comprehensive coverage of this topic and other findings on the organization and structure of training will be available in 1989 in four books:

ORGANIZATION AND STRATEGIC ROLE OF TRAINING explores how training is structured, financed, and linked to the strategic goals of employer institutions. It also maps the size and scope of training in employer institutions.

TECHNICAL TRAINING examines how technical workers get their training, what it costs, who provides it, how it links to strategic goals, and what the future holds for the technical workforce.

ACCOUNTING AND EVALUATION includes an accounting model that represents a tested method of capturing training costs and benefits. It also explores effective evaluation methods that connect training to strategic change.

BASIC WORKPLACE SKILLS maps out the skills that employers want and charts the strategic relevance of each skill. A model for establishing a basic workplace skills program, as well as generic curriculum for each skill, is included. In addition, a comprehensive *BASIC WORKPLACE SKILLS MANUAL* will chart the step-by-step process for establishing a basic workplace skills program. It will include charts and checklists for implementation.

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INTRODUCTION

New technology. Participative management. Sophisticated statistical quality controls. Customer service. Just-in-time production. The workplace is changing and so are the skills that employees must have in order to change with it.

But many do not have basics essential for acquiring more sophisticated technical skills.

While not a new problem, deficiencies in basic workplace skills is a growing one. It is a challenge emerging from a volatile mix of demographic, economic and technical forces. These combined forces are driving the nation toward human capital deficit among both new and experienced workers that threatens the competitiveness of economic institutions and acts as a barrier to the individual opportunity of all Americans.

The nation is facing a startling demographic reality that isn't likely to go away. The group of 16-to-24 year olds that is the traditional source of new workers is shrinking, and employers will have to reach into the ranks of the less qualified to get their entry-level workforce. That means that an increasing number of entry-level workers will come from groups where historically human resource investments have been deficient.

If that's news to you, don't feel bad; it's news to most. Americans are predisposed to the view that there are too many qualified people and not enough good jobs to go around. Our recent history encourages us to believe that people are superfluous while machinery, financial capital and natural resources are hard to come by. However, things are rarely as they first appear. Closely examined, the apparent excess of American workers proves illusory. In the future, there will likely be too few well-educated and trained American workers looking for their first job.

Ironically, this demographic reality is on a collision course with the notion that employees must be able to quickly understand and acquire new and different skills. As technology becomes more footloose and instantaneously available worldwide, the skills of employees become the employer's competitive edge.

Today's workplace demands not only a good command of the three R's, but more. Employers want a new kind of worker with a broad set of workplace skills— or at least a strong foundation of basics that will facilitate learning on the job.

For employers, the basic workplace skills challenge has been slowly coming into focus for some time. Reading, writing and math deficiencies have been the first to surface in the workplace; but, increasingly, skills such as problem-solving, listening, negotiation and knowing how to learn are being seen as essentials. Deficiencies in many of these basic workplace skills are barriers to entry-level employees, experienced employees, and dislocated workers attempting to adapt to economic and technological change within employer institutions.

Employer interest in improving basic skills is driven by economic concerns. When deficiencies affect the bottom line, employers respond with training or replacement. But, the time-honored choice, replacement, is becoming less practical because the supply of workers is shrinking. Increasingly, employers are forced to make rather than buy productive employees. As a result, interest in providing training in basic workplace skills is growing.

Employee interest also is growing, primarily because workers are being challenged as never before. For those already employed, deficiencies in basic workplace skills threaten adaptation, and short-circuit successful job transitions, and career growth. The ground under them is shifting as the range of skills needed to participate successfully in this economy expands. They are less supervised, but more frequently called upon to identify problems and make crucial decisions.

Perhaps the most devastating impact of basic workplace deficiencies falls upon the disadvantaged who are outside the economic mainstream, struggling to get in. For those attempting to enter the workforce and those who have been displaced from their jobs, such deficiencies inhibit entry into productive and well-paying work, pinning those disadvantaged at the bottom of the economic heap.

The *upskilling* of work in America is driven by technical changes, innovation, and a sense of heightened competition. The picture is further

complicated by competitive challenges driving companies toward employing an array of strategies that require adaptive and innovative workers with strong interpersonal skills. Business strategies— such as collaboration (the work team concept), exemplary customer service, and emphasis on quality— demand teamwork, listening skills, the ability to set goals, creativity, and problem-solving skills.

Couple this with the movement toward more participative management and employers aggressively driving workers toward decision-making at the point of production or point of sale, and it is easy to see that new skills must be applied if employees—and their employers—are to succeed in the marketplace.

In fact, one might even say that a new kind of American worker is being ordered up. And this new worker will be expected to have a broad set of skills that were previously required only of supervisors and management.

For example, one job already in transition is that of bank teller. Competitive shifts and new technologies have had a profound effect on the structure, organization, and management of banks. A new customer service philosophy demands that traditional institutional and professional specialties give way to a "one-stop-shopping" approach for financial services.

Traditionally a processor, the bank teller's primary role was to perform a series of repetitive tasks (checks in, money out, reconciling) very well. Competitive pressures to satisfy customers' "one-stop" desires have expanded the bank teller's role to include advising customers on a wide range of customized financial services. The teller now is privy to an array of information previously in the domain of midlevel managers, is empowered to advise customers, and is charged with making judgement calls "on the line"—that is, at the point of customer contact. Moreover, the teller is linked with data via a computer terminal, requiring a new range of skills to operate the equipment and access relevant data speedily.

In short, to be effective in the workplace the new bank teller may not need to have the same degree of skills in a narrow area of expertise, but instead must have a good knowledge of a wide *range* of skills.

Taking the First Step

The nation is already taking the first step toward addressing basic workplace skills deficiencies. The voices of business and government leaders are joined increasingly in a dialog aimed at effecting damage control—at meeting the challenge of basic skills deficiencies before it grows larger. While not insurmountable this challenge will be difficult to manage unless policy makers and providers of training are equipped with the proper tools.

This booklet, and the book and manual that will follow in 1989, are designed to inform the reader about the challenge and the available tools.

PART I

Basic Skills and Competitiveness

Individuals and employers have viewed basic workplace skills differently in the past. For individuals, competency in basic workplace skills has always been important because sound basic skills leverage earnings and opportunities. American employers have seen competency in workplace basics as a prerequisite for hiring and viewed the accumulation of such skills as solely the responsibility of the individual. The employer's interest focused on measuring the skills of prospective employees and screening out those who were most suitable for hiring.

But times are changing. Employers are beginning to see that they must assist their current and future workers to achieve competency in workplace basics if they are to be competitive. This sense of shared responsibility is grounded in economic realities and is compelling employers to invest in workplace basics training programs.

Why this shift in attitudes? The answer lies, in part, in demographics and technology.

The demography is clear. The entry-level labor pool is shrinking and will continue to do so through the year 2000.

More and more, American employers will no longer enjoy the luxury of selecting from a field of workers with strong basic skills. The demand for labor will create opportunities for those who are less skilled; the disadvantaged will move up the labor queue and be hired in spite of obvious skill deficiencies. American employers will fill in the skill gaps and help build individual competence in the basics.

Technology creates both opportunities and problems for employers. Its very transferability has leveled the world-wide playing field. The employer's competitive edge is increasingly reliant upon how effectively and efficiently workers and machines are integrated and move through the production cycle. Successful integration is dependent upon how quickly veteran workers accumulate new skills. And acquisition of new skills is facilitated when a worker has a solid grounding in the basics.

Basic Skills and the Competitive Cycle

There is an undeniable linkage between workforce skills and the competitive cycle.

The competitive life cycle of any new strategy, technology, product, or service usually consists of six distinct stages: discovery; design; development and articulation of the management and production systems and processes; production and service delivery; and development of new applications. The time it takes to move through these stages is called "cycle time." And reducing that time while maintaining quality can mean competitive advantage.

The company that develops and delivers a product to the marketplace in the least amount of time is able to pass on the savings of the shorter production cycle. This gives a company the edge in (1) offering a less expensive product, (2) capturing initial consumer interest in a product, (3) promoting consumer loyalty, and (4) establishing a niche in the marketplace that gives the product an advantage over similar products that are likely to follow.

Employers have learned that their employees'

basic skills will be tested at every stage of the competitive cycle, influencing cycle time. Good basic skills can mean a shorter production cycle, improved products, and high quality. Deficiencies in such skills can undermine the cycle and cause delays, defects, and customer rejections.

In employer institutions, the initial discovery and design stages of a new strategy, technology, product, or service are exploratory and experimental. Often, though the workforce may be aware of a change in strategic direction, the institution has not fully integrated the new strategy into its culture. With change comes new methods of production or service delivery, which overlap with old methods. Moreover, in this early stage of an innovation, individual job assignments are still unclear. As a result, individuals' job responsibilities are broad and ambiguous.

To adapt quickly to new workplace demands, employees must know how to learn. They need problem-solving skills to overcome barriers that arise in new situations. And in addition to feeling comfortable with innovation, they must be able to think creatively as they cope with new challenges.

During these ambiguous stages, employee roles are vague. Employees and working teams are on their own to deal with the unstructured environment characteristic of the early phases of an innovation. Employees must have the capacity to take responsibility for themselves. They need personal and career management skills, a strong, realistic sense of self-worth, and the ability to set and meet goals.

Individual employees also need the basic skills that allow them to interact effectively with other members of the working team. To do this they must know how to listen and to communicate their thoughts clearly. Effective interaction involves knowing how to influence others within the organization's culture. And they must be capable of recognizing when, where, and how they should assume a leadership role.

Eventually, innovations will be integrated into the production or service delivery system in an employer institution. At this point, the basic skills of the entire employee population—including the non-supervisory personnel—will determine the institution's ability to produce products or deliver services while maintaining efficiency and quality. The basic skills of production and service delivery employees will also determine the employer's ability to customize products and services for a wide array of customers.

The development of new efficiencies, quality improvements, and new applications for the original innovation is the last phase in the cycle. This phase is key to an expanded marketplace and long-term profitability.

In this stage, creative thinking and problem-solving are essential. As employees apply their learning, the employer's store of new knowledge is enriched. New knowledge eventually translates into efficient production, improvements in quality, and new applications for products or services. Sometimes changes and new information yield major advances in strategy and technology or new products and services, and this triggers yet another competitive cycle.

Workplace basics are important throughout the life cycle of a product and the process of service delivery. With good, solid basics, the workforce can meet the challenge of change because employees continue to build on the knowledge and skills needed to adapt to innovations. Solid basics are critical for all employees not just white-collar and technical elites such as engineers. Production and service delivery personnel with high levels of basic skills allow employers to decentralize production and service delivery. Such decentralization improves the institution's ability to customize its product or service and respond more effectively to customers. Decentralization also allows employers to avail themselves of the skills of all employees in finding new cost-effective methods for production or service delivery, generating quality improvements, and finding new applications for existing products and services.

Basic Skills and Technical Change

New technologies are redefining basic skill requirements. By decentralizing the production of products and services, information-based technologies are increasing the autonomy and value of employees at the point of production and service delivery. At all organizational levels, the roles of personnel have expanded and they are now responsible for a wider range of products and for the customization of an array of products for individual customers. With those broader roles, comes greater opportunity to have a positive or negative effect on efficiency, quality, and innovation.

Technical changes on the job tend to change basic skill requirements incrementally. Sometimes these changes accumulate to the point of creating new occupations. In manufacturing, craft occupations such as machinist and tool and die maker are evolving quickly into technician and technologist jobs. The same has happened with the skill jobs of assembler, repair person, and materials handler. In services, the secretary is evolving into the information manager and the bank teller is becoming the financial services portfolio consultant for individual customers.

While technologies are eliminating jobs, they are also increasing the range of skills needed to perform jobs that remain. Over the past decade, the most prominent example of this has taken place on the factory floor. Once the status leader and central figure on the working team, the machinist, applied various technologies to shape individual parts of a final product. Career advancement depended on sharpening the essential job skill of hand-to-eye coordination. Eventually, when the machinist's hand-to-eye coordination skills were good enough, he or she became a tool and die maker. Enter the robot with more consistent hand-to-eye coordination than the machinist, a better performer of the basic job task, the robot took the machinist's place.

At the same time, the technology of advanced automated manufacturing began doing the jobs of other members of the shop floor team including the laborer, the materials handler, the operator/assembler, and the maintenance person. Ultimately, all these jobs have become one job that combines a greater use of technology with a single employee—the new technician responsible for all the functions performed by the displaced workers. And although the new job may not require the same depth of skill in each of the more narrow jobs it absorbs, it does require a wider variety of basic skills than any one of the other jobs.

The expanding range of job tasks and responsibilities in the manufacturing technician's job demands higher basic levels of reading, writing, and computation. The job of technician will require an understanding of each task associated with the jobs included in the technician position. Generally, more autonomous than the machinist, the technician must have higher-level personal management skills. Also responsible for troubleshooting, maintaining, updating, and exercising quality control over highly complex mathematically-based machinery, the technician must have better computational skills and be able to read and to comprehend technical manuals. Besides higher competencies in math and reading, these new tasks demand the skills to adapt successfully to the job—learning to learn, creative thinking, and problem solving.

Other effects of technological change will also increase basic skill requirements. Technology is the means to product diversification. This creates a greater need for job-specific product knowledge and basic learning skills — strengths that help employees keep pace with development, design, production, and the sale of

changed and new products. And to perform successfully in this situation, an employee must know how to learn. Examples of industries where recent diversification has expanded workplace skills requirements include the communication and banking industries. In the communications industry, a basic line of voice instruments has expanded into a myriad of delivery systems for communicating data and imagery. The banking industry has expanded too. The basic line of checking and savings products has grown into an array of financial services.

New information technologies also make it possible to customize products. Over the past decade, both batch production in manufacturing and the customization of service products have advanced markedly. The ability to tailor products and services requires the learning and problem-solving skills that make employees adaptable. And with customization comes the need for customer relations. Employees at the point of production and service delivery must know how to listen and to articulate their thoughts clearly—to understand and *be understood*. To interact successfully with customers, employees need strong communication skills. They also need interpersonal and negotiation skills to deal with customer grievances and complaints.

Changing economic and technical realities alter the institutional structures themselves. And these new structures, in turn, change basic skill requirements. Due to technological change, more and more institutions are becoming highly decentralized—with profound implications for basic skills. Among American employers, the new effective institution recognizes the autonomy of individual employees and teams in production, sales, or service. These decentralized, flexible institutions will meet the challenge of product diversification and intensive competition.

With the new decentralized institutional model, resources and authority become available to employees at the lower levels of the structure. This decentralized model eliminates the middle layers of management and flattens the institutional hierarchy; this shortens the gap between those in control of institutional leadership, product development, and strategic decision-making and those responsible for the production and delivery of the product or service. Instead of managing production and delivery processes, the new institution establishes accountability by monitoring outcomes. Managers guide individuals or working teams and intervene only when the work is unsatisfactory.

Employees of the new institution need significantly higher basic skills. The new autonomous workers must have personal management skills to maintain self-esteem, set goals, and be motivated. As full members of an autonomous working team, these employees need higher levels of interpersonal, teamwork, negotiation, and organizational skills—skills that enhance group effectiveness. At various points in the production or service delivery processes, each individual member of the working team needs leadership skills. To be effective in their organization, employees must understand how their own personal goals and objectives fit into the organization's culture and strategic goals. With this understanding, employees can influence the organization to use and develop their skills in a mutually productive way.

To advance in a single evolving institution, industry, or occupation, employees must be capable of taking charge of their own working lives. As economic and technological changes occur, the new, more flexible institution will continue to modify and rebuild itself. In turn, individuals will have to adapt skills for new roles within the changing institution. But as it constantly changes form, appearing and disappearing with economic circumstances, the commitment between individuals and specific institutions declines. With this new, more temporary institutional "format," employees must be more responsible for their own career development and job security. More dependent on skill development than any one employer for job security and career development, employees need personal management and career development skills.

Basic Skills and Individual Opportunity

A workforce with sound basic skills will strengthen its employer's ability to compete. And for the individual worker, basic skills are the keys to greater opportunity and a better quality of life. Workers with good basic skills find it easier to acquire more sophisticated skills that leverage better jobs and higher pay.

Research shows that in the U.S. roughly half of the differences in earnings can be attributed to learning in school and on the job. Accidents of geography, career choices, and the selection of an employer account for the other half. Earnings are a function of the skills people have and the choices they make regarding how and where they use those skills. Poor basic skills limit individuals' choices and their potential for earning.

The processes of developing basic skills in school and applying them on the job complement each other. Basic academic skills expand and grow when used on the job. People use what they learned on one job to leverage a better job. Compared with all other variables that affect earnings, learning on the job has the most powerful effect. Available data tends to support the fact that on-the-job learning—especially formal learning—can leverage earnings by as much as 30 percent.

In most studies, between 10 and 13 percent of lifetime earnings among Americans can be attributed to the initial learning that takes place in school. But these studies do not address the fact that academic preparation leverages learning on the job. For instance, those with only a high school diploma are not likely to get on-the-job training, whereas those with the diploma *plus* two years of formal education have a 20 percent greater chance of securing such training. And those who have some college education have a 50 percent greater chance. The increasing probability of getting training on the job peaks at 16 years of schooling for all but the high-tech industries. There the connection between education and on-the-job training continues to increase for those with post-graduate degrees.

The relationship between basic skills and opportunity seems to be strengthening over time. According to Andy Sum and Gordon Berlin, while inflation and declining productivity reduced the earnings of all Americans, the earnings of the least educated declined most. During the last recessionary period, high school dropouts experienced a staggering 40 percent decline in earnings, the earnings of those with a high school degree, some college, or a college degree declined by 30 percent, 26 percent, and 11 percent respectively. Between 1960 and 1984, the earning differences between high school graduates and dropouts increased from 30 percent to 60 percent.

Many have argued that during the late 60's and throughout the 70's employers established increasing educational requirements for jobs to sort through the volume of baby boomers. And, say Sum and Berlin, many employers continue this despite the growing scarcity of entry-level job seekers.

Studies by John Bishop have demonstrated that employees with strong basic skills are more productive than those with weaker skills. However, he also points out that employers do not fully reward the contributions of more skilled and productive employees, because reward systems are tied to such factors as academic credentials, seniority, and job classifications.

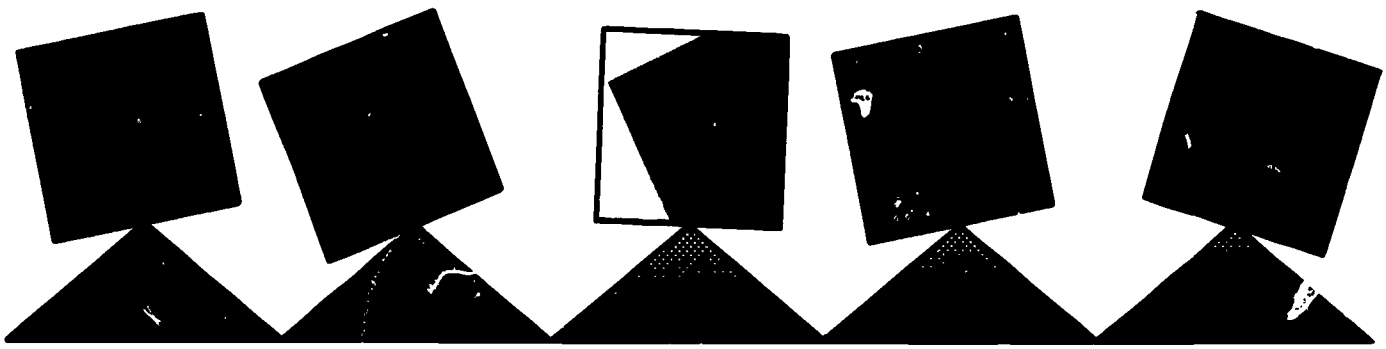
Available evidence also shows that, although employers do not fully reward employees for their basic skills, there is some correlation between abilities and rewards. When Berlin and Sum analyzed the earnings of young workers who had taken the Armed Forces Qualifying Test, they discovered major differences in earnings among people with the same number of years in school but different basic skill levels. The analysis revealed that dropouts who scored a "low high" on the Armed Forces Qualifying

Test earn only half as much as dropouts with higher scores. Among high school graduates, males with the better basic skills earn two-thirds more and females three times as much. Deficiency in basic skills stands as the final barrier to employment of the poor and disadvantaged. Though the current scarcity of entry-level labor offers a steady supply of work to those prepared for jobs, lack of preparation is an obstacle to reducing unemployment rates among the poor. Such skill deficiencies are also among the principal causes of the social pathology that torments the poor.

In a survey of disadvantaged 19-to-23-year-olds, Berlin and Sum found that low basic skills were distinguishing characteristics of the group: 68 percent were arrested, 85 percent were unwed mothers, 79 percent were welfare dependents, 85 percent were dropouts, and 72 percent were unemployed.

FIGURE 1

WHO HAS LOW BASIC SKILLS?



68% of those arrested | **85% of unwed mothers** | **79% of welfare dependents** | **85% of dropouts** | **72% of the unemployed**

The American Challenge

How a country responds to economic and technical change—whether its response will be strong or weak—depends on how the country integrates learning within its employer institutions. That integration also determines how employer institutions will be structured.

American and French economies invest heavily in the formal education and workplace learning of white-collar and higher-level technical elites, but less in non-college skill and craft workers. The result: in these institutional structures managers, senior-level technical personnel, and other white-collar employees have vested control over the production processes. Institutions in these countries focus on educating technical elites, creating a highly structured managerial hierarchy that controls mass production. Such institutions combine large doses of technology *developed by technical elites* with the relatively unskilled labor in production.

In contrast, Germany relies more on the for-

mal training of craft and skill employees for technical direction, and its employer structures have fewer layers of managerial and white-collar personnel than those of either France or America.

Most countries specialize in the goods and services that give them comparative advantage in the production and organizational uses of human resources. The U.S. enjoys this advantage through its development and use of higher-skilled white-collar and technical personnel. As a result, we do well in the early stages of a new technology or product line when higher-level skills are critical. In later phases of the development of new technol gies or new products, Americans extend mar ket penetration by combining mass production technologies with intensively managed organizational innovations.

Americans rely on highly-skilled scientists and engineers for mass production technology. They rely on managerial, supervisory, and other white-collar and professional personnel to develop institutional alternatives to achieve low production costs and wide dissemination of products. Uses of white-collar and managerial talent, such as decentralized management, diversified firms, and the multinational corporation, have made America successful in expanding the dissemination of new products and exploiting new technologies.

But while these links between our human resource development system and the employer economy have given the U.S. competitive advantage during early stages of new products and technologies, the nation is less competitive in later phases of mass production and technological dissemination. In the production phase of the competitive cycle, America does not compete well. The U.S. does not satisfactorily develop efficiency or quality during that phase. It needs improvements in developing applications of new strategies, technologies, or products and services.

America's inability to sustain competitive advantage argues for better basic skills among non-supervisory skill and craft employees. With better skills, this group can participate more effectively in those phases that need improvement. Upskilling is becoming more crucial as technical and economic changes increase companies' reliance on individuals and working teams who are directly responsible for the production and the sale of competitive products and services.

In a comparison among countries, the more educated and trained half of the American work force competes well with the white-collar anc technical elites of its economic rivals. But the other half of the workforce is not as well prepared, and this is where the U.S. is losing the competitive race. This fact presents a major challenge for American educators and employers. Academic and employer institutions must stop catering to the development and use of white-collar and technical elites. Instead, they must choose a more broad-based mission that is attentive to the non-college bound and the nonsupervisory employee.

PART II

The Skills Employers Want

Many employers say that the most important skills for any employee are the academic triumvirate—reading, writing and computation. With increasing regularity, employers are telling the media, "Give me people who can read, write, and do simple math and I'll train them for the jobs I have available." But probing further, one finds that employers want good basic academic skills *and much more.*

Employer complaints focus on serious deficiencies in areas that include problem solving, personal management, and interpersonal skills. The abilities to conceptualize, organize, and verbalize thoughts, resolve conflicts, and work in teams are increasingly cited as critical.

So what are the skills—these basic workplace skills—that employers want? They certainly include basic skills associated with formal schooling. But academic skills such as reading, writing and arithmetic comprise just the tip of the iceberg.

Employers want employees who can learn the particular skills of an available job— who have "learned how to learn."

Employers want employees who will hear the key points that make up a customer's concerns (listening) and who can convey an adequate response (oral communications).

Employers want employees who can think on their feet (problem-solving) and who can come up with innovative solutions when needed (creative thinking).

Employers want employees who have pride in themselves and their potential to be successful (self-esteem); who know how to get things done (goal setting/motivation); and who have some sense of the skills needed to perform well in the workplace (personal and career development).

Employers want employees who can get along with customers, suppliers or co-workers (interpersonal and negotiation skills); who can work with others to achieve a goal (teamwork); who have some sense of where the organization is headed and what they must do to make a contribution (organizational effectiveness); and who can assume responsibility and motivate coworkers when necessary (leadership).

This is a prescription for a well-rounded worker who has acquired a number of discrete skills and who has the capability to acquire more sophisticated skills when necessary.

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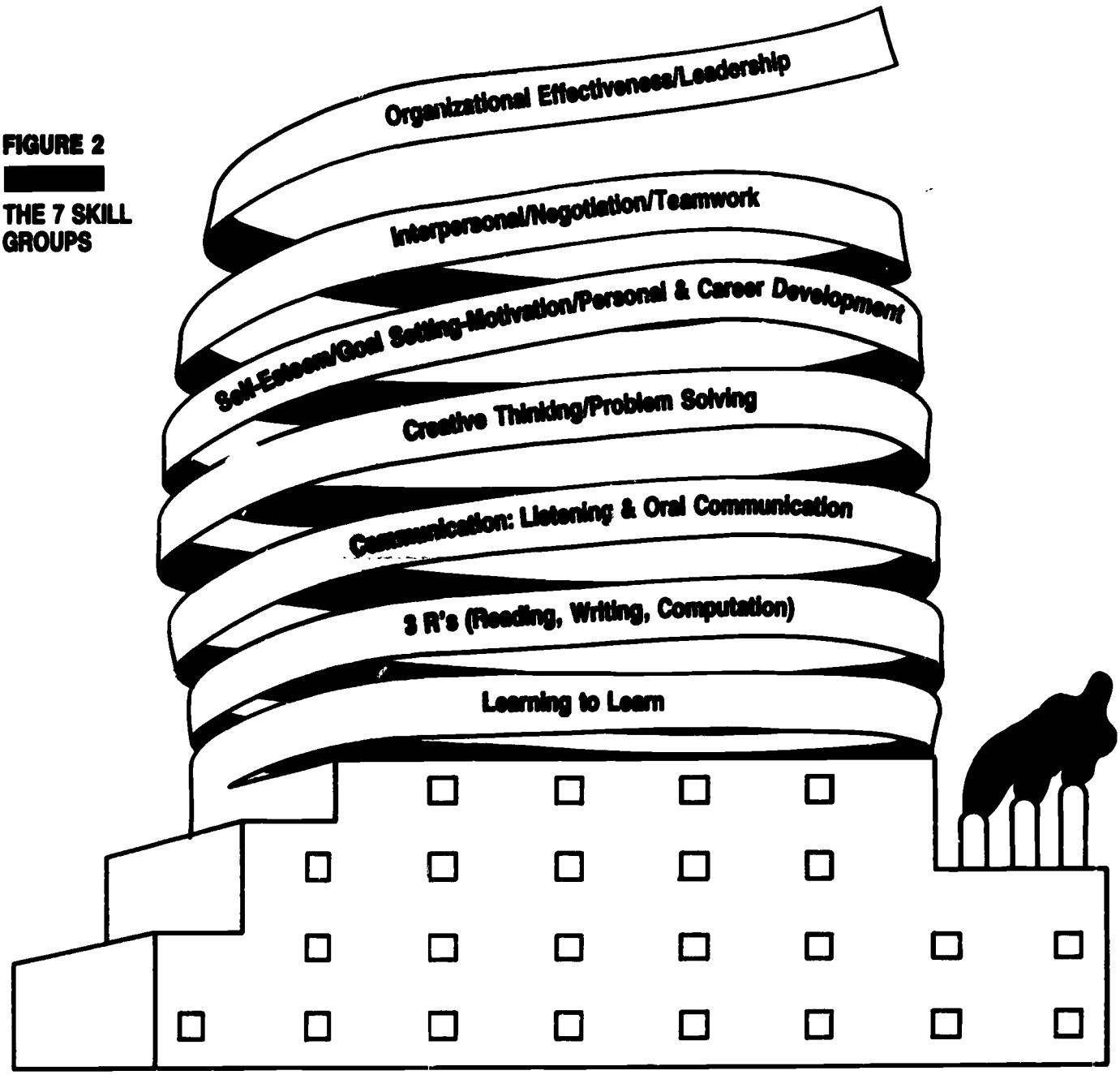
The Foundation: Knowing How to Learn

The accumulation of knowledge in our society is respected and encouraged. But rarely do we, as children, learn the principles that prepare us to absorb and apply information effectively.

Knowing how to learn is the most basic of all skills because it is the key that unlocks future success. Equipped with this skill, an individual

FIGURE 2

THE 7 SKILL GROUPS



can achieve competency in all other basic workplace skills from reading through leadership. Without this skill, learning is not as rapid nor as efficient and comprehensive.

The first step in providing this skill is to discover how an employee best absorbs information. Identifying a trainee's sensory preference—visual, auditory, tactile—and designing training that integrates that preference is essential. Training in this skill also means exposing the employee to various learning strategies and analytical approaches and providing instruction on how best to apply these tools.

Often, however, just being aware of one's own preferred learning approaches and becoming exposed to various learning strategies will inspire dramatic improvements in learning.

Learning is now a fact of life in the workplace. Even routine jobs are evolving as the demands of the workplace expand. Competitive pressures compel employers to shift employees between jobs and responsibilities, putting a premium on the ability to absorb, process, and apply new information quickly and effectively. The complexity, amount, and availability of information compounds the issue.

From the employer's perspective, an employee who knows how to learn is more cost-effective because time and resources spent on training can be reduced. Employers recognize that long-term relationships with employees are the most cost-effective; therefore, employee ability to adapt to company needs through retraining programs becomes crucial as technology creates shifts in job market demand and job content. Employers see the skill of knowing how to learn as the key to retraining efforts.

But most important, the employees who know how to learn can greatly assist an employer in meeting its strategic goals and competitive challenges, by more efficiently applying new knowledge to job duties and tasks.

Productivity, innovation, and competitiveness all depend on developing the learning capability of the workforce. Machinery and processes are transferable from company to company and country to country. But it is the application of human resources to technology and systems that provides the competitive edge.

Competence: Reading, Writing and Computation

Basic academic skills—reading, writing and computation- have long been revered as the keys to success in society and the workplace. In theory these skills have been essential, but in practice workers have often succeeded because of "a strong back and willing hands."

The workplace of the past was one where those with limited academic achievements could succeed. Jobs often required going through the motions of a regularized process or repetitive interaction with machines. In that workplace, illiteracy and innumeracy could be hidden or ignored.

But today's workplace is one that increasingly involves interaction with sophisticated, computerized machinery that requires good reading skills for efficient use. The introduction of approaches such as statistical process control (SPC) demand higher mathematical skills. And writing is frequently the first step in communicating with customers, interacting with machines, documenting competitive transactions, or successfully moving new ideas into the workplace.

America is fortunate in that the vast majority of our workers are literate and numerate. But frequently, employees cannot use these skills effectively in the workplace. Sometimes it is because they are "rusty" and are called upon to use mathematical principles they haven't used for 20 years or so. Sometimes it is because skills must be used in a different context than originally learned. Sometimes, the base knowledge is there but there is no understanding of how to expand and apply it. All of these problems create the need for employer-provided training in reading, writing, and computation.

The challenge of providing traditional academic skills in the workplace is one that can be met by using an applied approach to basic workplace skills training, using or adapting materials and concepts that are job-based.

This requires an awareness that sometimes the intended use of a skill makes that skill more complex. For example, traditional classroom reading instruction is designed to teach discrete reading skills, in isolation, for the purpose of increasing a student's ability to follow directions or internalize data for future recall. For this reason, even some students who master reading in an academic setting are not prepared for the way they will use the skill in the workplace.

Reading tasks on the jobs are different. They require the reader to be analytical, to summarize information, and to monitor one's own comprehension of the reading task. This is an interpretive approach that requires the reader to have active involvement with the reading task. From the employer perspective, basic training in reading should focus on teaching reading processes for locating information and for using higher level thinking strategies to solve problems.

Similarly, the traditional classroom approach to teaching **writing** focuses on description (creative writing) or on the articulation of learned responses concerning facts and events (essays). Workplace writing relies on analysis, conceptualization, synthesis and distillation of information, and clear, succinct articulation of points and proposals.

In schools, **mathematical** concepts are presented sequentially, beginning with fundamental concepts like addition and subtraction and working through to higher level operations such as geometry and trigonometry. Traditional math education is a group activity with the instructor and the group focusing on sample problems presented by the instructor. This is followed by independent practice, repeated drills, and finally standardized tests to measure proficiency *level.*

Workplace math skills are taught contextually to reflect their actual use on the job; instructional materials simulate specific job tasks. Building on the prior math knowledge of the learner and emphasizing problem identification, reasoning, estimation, and problem-solving, this approach has been shown to produce the quickest, most effective results in employee performance.

Most employers today cannot compete successfully without a workforce that has sound basic academic skills. Workers spend an average of one and one-half to two hours per workday engaged in reading forms, charts, graphs, manuals, computer terminals, and so on. Writing remains the primary form of communication for transmitting policies, procedures, and concepts. Computation is used daily to conduct inventories, report on production levels, measure machine parts or specifications, and so on.

Deficiencies in such basic workplace skills create barriers that impair an employer's ability to meet strategic goals and to be competitive. They are reflected in productivity decline, increased accident rates, costly production errors, and the inability to effect critical job retraining.

Communication: Listening and Oral Communication

Reading and writing are essential communication tools, but it is through listening and speaking that we interact most frequently. The average person spends 8.4 percent of communications time writing, 13.3 percent reading, 23 percent speaking, and 55 percent listening.

Workers spend most of their day in some form of communication. They communicate with each other about procedures and problems and they relay information to and receive it from customers. Success on the job is linked to good communications skills. In fact, recent studies have indicated that only job knowledge ranks above communications skills as a factor for workplace success.

Ironically, American schools offer scant instruction in oral communication or listening. While extensive formal training in reading and writing is provided, instruction in speaking skills is generally provided as an elective course linked to drama, debating, and so on. Virtually no training in listening is available.

Instruction in effective **oral communication** skills rests on providing workers with an understanding of the importance of voice inflection and body language when communicating. The styles that people use when communicating affect how they are perceived and what is heard. Workplace training in oral communication simulates actual workplace circumstances and instructs employees in recognizing their dominant styles of communication and how they are manifested, understanding and valuing communication approaches that are different in style from their own, and adjusting their dominant style to someone whose style differs.

Listening skills curricula should also simulate actual workplace experiences and assist trainees to understand how listening style affects the transmission and receipt of information. Instruction should focus on the five listening skills that are critical for workplace success: listening for content; listening to conversations; listening for long-term contexts; listening for emotional meaning; and listening to follow directions.

Employees who lack proficiency in oral communication and listening skills are handicapped as to their learning and communicating abilities, and their personal and professional development. Business leaders estimate that deficiencies in these skills cost employers millions each year in lost productivity and errors.

Communication is central to the smooth operation of a competitive venture. Communications skills are at the heart of getting and keeping customers. Pitching innovation, contributing to quality circles, resolving conflict and providing meaningful feedback all hinge on oral communication and listening skills.

Adaptability: Creative Thinking and Problem-Solving

An organization's ability to achieve its strategic objectives often depends on how quickly and effectively it can transcend barriers to improved productivity and competitiveness. These pressures put creative thinking and problem solving at a premium—at all levels of an organization.

Problem solving skills include the ability to recognize and define problems, invent and implement solutions, and track and evaluate results. Cognitive skills, group interaction skills, and problem-processing skills are all crucial to successful problem solving. Workplace training programs in problem solving simulate real problems and are keyed to the organization's goals.

New approaches to problem solving, organizational design, or product development all spring from the individual capacity for creative thinking. In the workplace, creative thinking is generally manifested as creative problem solving or creative innovation. Often a group activity, creative problem solving is characterized by effective teamwork, the examination of problems in new ways, and the invention of new solutions to existing problems. Either an individual or group activity, creative innovation refers to the development of new activities that expand markets, and improve such elements as productivity.

Training in **creative thinking** is designed to expand the thinking processes of trainees, to allow trainees to escape from logical and sequential thought patterns. For example, exercises to promote divergent thinking (finding connections between seemingly unrelated ideas) might be conducted. Most training in creative thinking involves problem solving, personality awareness and development, and group teambuilding activities.

An organization's ability to achieve its strategic objectives often depends on the problem-solving and creative-thinking skills of its workforce. Unresolved problems create dysfunctional relationships in the workplace. Ultimately, they become impediments to flexibility and to dealing with strategic change in an open-ended and creative way. Creative solutions help the organization to move forward toward its strategic goals.

Personal Management: Self Esteem, Goal Setting/Motivation, and Personal/Career Development

An individual's effectiveness in the workplace can be linked directly to positive self-esteem and successful personal management. A good self-image means the employee takes pride in his or her work. The ability to set goals and meet them will become evident as production quotas are exceeded or deadlines met. Solid personal and career development skills are apparent in efficient integration of new technology or processes, creative thinking, high productivity, and a pursuit of skills enhancement through training or education.

In the past, employers viewed employees with solid occupation-specific skills as having all "the right stuff" for success on the job. But today workers are increasingly called upon to make decisions at the point of production or point of sale and to display good interpersonal skills when they work in teams or with customers. The confidence that engenders success in these areas springs from a positive sense of self worth.

Ironically, just as employers are recognizing the need for employees with positive self esteem, they are faced with a shrinking entry-level labor pool which will propel them toward selecting workers from populations that have been buffeted by poverty, circumstance, and environment— workers who frequently have low self-esteem. And at the same time, the frustrations of business today—frequent mergers, downsizing, lay-offs—can erode the self-esteem of established workers who feel powerless or unable to progress toward their career goals.

Workplace training to enhance **self-esteem** is at the core of training to expand job-specific occupational skills or provide remediation. Key elements of self-esteem training include assisting employees to recognize their current skills; be aware of their impact on others; understand their emotional set points and abilities to cope with stress, change, criticism, and so on; and deal with their own limits by recognizing the need for and seeking new information to apply to problems and construct solutions.

For an employer to succeed in the marketplace, employees must be motivated; they must possess the ability to set and to meet reasonable goals. From the shop floor to the salesroom, the motivated employee comes out on top.

Poor performance can often be linked to deficiencies in these skills (although sometimes the root causes are mitigating circumstances such as low pay or poor working conditions). Individual employees' lack of motivation or goal-setting skills can produce an organizational undercurrent of repeated errors, absenteeism, and quality problems, or it can construct barriers along the path to change.

Training in **motivation/goal setting** is rooted in techniques for setting and meeting defined objectives, including recognizing signposts of incremental success along the way toward meeting a goal. Like self-esteem training, it focuses on self-awareness and adaptability as keys to dealing with things or people. It also emphasizes self-direction and organizational savvy.

Personal and Career Development skills rest on a foundation of good self-esteem and motivation. Employees who exhibit these skills increase their value in the workplace and in the employment marketplace. Employers value these skills in employees because they usually

indicate successful job transitions and effective training experiences.

Unfortunately, the educational system provides little formal training in defining career direction and identifing the education and training needed to achieve career goals. Consequently, many people enter the workforce with little understanding of these skills and react to job opportunities as they surface. This patchwork-quilt approach to career development, which worked well in a time when employees could reasonably expect a long-term career with one employer, is no longer viable.

Training in personal and career development skills includes providing employees with techniques for understanding and expanding their skills inventories, career planning, and career management. Goal setting is important as is structuring individual career progression models that explore the training and educational preparation needed to meet career goals. Importantly, training should be complemented by on-going counseling and by the organization's clearly articulated support of potential career paths for individual jobs.

Organizations have traditionally viewed the skills of self-esteem, goalsetting/motivation, and personal/career development as those an individual should acquire outside the workplace. But the demands of today's evolving workplace are influencing employers to recognize that they must look beyond providing occupation-specific skills. They must include training in the more intangible skills that together make a productive and competitive workforce.

Group Effectiveness: Interpersonal Skills, Negotiation, and Teamwork

In the past two decades, there has been a tremendous increase in the use of teams in the workplace. The team approach has been linked conclusively to higher productivity and product quality, as well as to increased quality of worklife. Change strategies are usually dependent upon the ability of employees to pull together and refocus on the new common goal.

Whenever people work together, successful interaction depends upon effective interpersonal skills, focused negotiation, and a sense of group purpose. The quality of these three factors defines and controls working relationships.

Interpersonal skills training is directed toward assisting the employee to recognize and improve the ability to judge and balance appropriate behavior, cope with undesirable behavior in others, absorb stress, deal with ambiguity, listen, inspire confidence in others, structure social interaction, share responsibility, and interact easily with others.

Such skills are essential to successful **negotiation**. Conflicts, both major and minor, are a fact of worklife. They can sap productivity and short-circuit strategic plans.

The key to diffusing potential conflict situations is to enhance employee negotiating skills at all levels.

Training in this skill includes techniques for separating people from the problem, focusing on interests not positions, inventing options for mutual gain, and insisting on the use of objective criteria. It also relies on a sound base of interpersonal skills and a clear understanding of the approach demanded by the circumstance.

Interpersonal and negotiation skills are the cornerstones of successful **teamwork**. Teams are organized in the workplace so that appropriate talents and skills can be directed through

group effort to accomplish vital tasks and goals. This pooling of resources, however, frequently requires team members to have an array of skills that individual or routine jobs do not demand.

Quality teamwork results when team members know how to recognize and cope with various and unique personalities and when each has a sense of the cultures and approaches that other team members represent. Team members also need an understanding of group dynamics, which evolve and change as the team approaches its goal. Lastly, team members must be aware of the technical skills that fellow members have and how those skills can be applied.

Teamwork can only occur when team members provide and receive feedback in a focused manner. Individuals gather and process information in personalized ways; good teamwork calls for the recognition and use of certain valuable differences between members of the team.

Training in teamwork is crafted to capture the essential elements of building team relationships. The major objective is to develop an inventory of skills and attitudes that can be applied successfully in the workplace to resolve problems and foster innovation.

The strategic relevance of interpersonal, negotiation, and teamwork skills is evident. They are basic tools for achieving the flexibility and adaptability that America's workforce must have in order to remain competitive.

Influence: Organizational Effectiveness and Leadership

To be effective in an organization, employees need a sense of the workings of the organization and how their actions affect organizational and strategic objectives. Skilled in scoping out the forces and factors that interfere with the employer's ability to accomplish its tasks, the worker can be a master problem-solver, an innovator, and a team-builder.

Organizations are a tapestry of explicit and implicit power structures. In the explicit structure, leadership is conferred and represented by title and authority. In the implicit structure, leadership is a delicately sculpted image built by cultivating the respect of peers, and projecting a sense of reliability, goal orientation, and vision.

Both organizational effectiveness and leadership skills are basics for success in tomorrow's workplace. Those who have these skills can help employers create the conditions for achieving goals and for succeeding in the marketplace.

Basic training in **organizational effectiveness** is geared toward providing the trainee with an understanding of what organizations are, why they exist, and how one can navigate the complex social waters of varying types of organizations. Once armed with this basic framework, the trainee is exposed to the organizational culture of his or her employer, its goals, values, culture and traditional modes of operation. Lastly, training in skills that make the employee a fully functioning member of the organization - interpersonal, communications, and group dynamics skills - completes the picture.

Organizational effectiveness skills are the building blocks for leadership. Unaccompanied by them, leadership skills can be misplaced and even counterproductive.

At its most elementary level, **leadership** means that a person can influence others to act in a certain way. Every person may need at times

FIGURE 3

WORKPLACE BASICS: A CHECKLIST

- ☐ Learning to Learn
- ☐ 3 R's (Reading, Writing, Computation)
- ☐ Communication: Listening & Oral Communication
- ☐ Creative Thinking/Problem Solving
- ☐ Self-Esteem/Goal Setting-Motivation/ Personal & Career Development
- ☐ Interpersonal/Negotiation/Teamwork
- ☐ Organizational Effectiveness/Leadership

to influence his or her work group and to provide a vision of what the organization as a whole or the specific task at hand requires. Leadership skills are necessary, therefore, for every level of the organization from the chief executive to the line worker.

Leadership skills training for the average employee includes the following components: how to understand the organization's strategies and tactics for achieving goals; leadership as an exchange process between leaders and followers; situational approaches for the task-centered leader; strategies for sound decision-making; developing and communicating a vision; influencing the behavior of others; and the importance of projecting emotional stability.

To compete in world markets, employers need employees who can operate effectively within the parameters of their organization, assume responsibility willingly, and motivate coworkers toward exemplary performance. These skills—once identified with the "fast track"—are now basic ingredients.

Part III

Blueprint for Success: How to Establish Programs to Deliver Workplace Basics

Programs created to provide employees with training in basic workplace skills are most successful when:

- ey are preceded by a well-constructed *action* that includes an in-house marketing cam- to marshal management and union support, hat connects the workplace basics program employer's competitive strategies;
- ey use a *systematic approach* to training n, development, and delivery;
- ey incorporate an applied learning method uses a *functional context approach* to job- fic training.

gether, these three elements constitute an "ap- approach" to workplace training that better cts the needs and realities of today's work- . This innovative approach merges political ties such as scarce dollars, technological ge, and the sometimes conflicting perspec- of management and labor—with state-of-the- inking on training design, learning methods, return on investment.

ke a general preparing for battle, the Work- Basics advocate must be aware of the factors influence a battle plan. Organizational capabilities, workplace changes and challenges, and the cultural dynamics of the company all come into consideration. More important, marshalling the support of management and unions is a pivotal activity in any effort of this kind; for without such support, the program will be devoid of an institutional base and will have a limited chance for success.

The major strength of the applied approach is that it rarely strays from the day-to-day reality of the workplace and it is linked to both the individual on the job and ultimately, to the employer's bottom line. Research and experience in adult training have shown that linking learning to a worker's actual job carries benefits for both employee and employer. More cost-effective than broad-based training this applied approach provides training tailored to the employer's specific needs and a more rapid integration of learning with actual job needs, resulting in higher employee productivity. For trainees, the applied approach improves retention because they will immediately and repeatedly use the newly-acquired knowledge. It also improves job performance because the trainees will apply their new knowledge to actual job needs. And it increases the potential for higher individual earnings and career advancement.

How Does the Applied Approach Work?

The applied approach is a pragmatic, work-based program development and implementation *tem*. At its heart are two basic ets:

nployers need to have training programs will consistently improve job performance.

- The best method for improving job performance is to approach training needs *systematically.*

Because the employer views basic skills problems as barriers to productivity and marketplace success, the employer's primary concern is to fill the gap between what employees know and what they need to know to improve job performance.

The applied approach to training meets employer need through a multistage process (see chart below). The stages are dynamic and interactive like the changing patterns of a kaleidoscope. All stages exert a significant and continual influence throughout the process.

Obviously, at various points throughout the process, one stage or the other will inevitably dominate. Throughout, however, all stages provide a continual undercurrent of influence. For example, results of a needs assessment will inevitably undergo rethinking as new knowledge is acquired during design and implementation. Evaluation of training effects on actual job performance will invariably test and challenge not only the training program design and implementation, but also the interpretation of the original needs assessment itself.

Just as the steps in the process itself are kaleidoscopic, so too are the demands placed on personnel charged with implementing the applied approach to Workplace Basics. To be effective, personnel must have political savvy, organizational skills, and technical expertise.

First an *investigator* must determine the scope of the workplace problem and the magnitude of any training response. If the initial investigation indicates that a significant training effort is required, and *advocate* with strong organizational and influencing skills is needed to secure management and union support. Once support is secured, the process requires a *training practitioner,* schooled in task analysis and training design, development, implementation, and evaluation.

Blueprint for Success

STEP I: IDENTIFY JOB CHANGES OR PROBLEMS RELATED TO BASIC WORKPLACE SKILLS

Assess the Extent of the Problem
Form a Company-Wide Representative Advisory Committee
Analyze Selected Jobs
Document Employee Performance Deficiencies
Identify Population to be Targeted for Training
Build Cooperation With Unions

STEP II: BUILD MANAGEMENT AND UNION SUPPORT FOR SKILLS TRAINING PROGRAMS IN WORKPLACE BASICS

Make the Case for Skills Training Programs in Workplace Basics
Build Support for Skills Training Programs in Workplace Basics

STEP III: PRESENT STRATEGY AND ACTION PLAN TO MANAGEMENT AND UNIONS FOR APPROVAL

Present the Strategy/Action Plan for Training
Select a Training Program Architect: In-House Staff vs. External Providers

STEP IV: PERFORM A TASK ANALYSIS OF EACH SELECTED JOB OR JOB FAMILY

Perform a Task Analysis
Determine Whether to Select a Quick Route Through Task Analysis, and Which Process is Most Appropriate
Review the Generic Elements of the Task Analysis Processes

STEP V: DESIGN THE CURRICULUM

Design a Performance-Based/Functional Context Instructional Program
Design Evaluation System
Design a Documentation and Recordkeeping System
Obtain Final Budget Approval to Implement Program

STEP VI: DEVELOP THE CURRICULUM

Prepare the Course Outline
Select Delivery Method and Instructional Materials
Select Facilities Site and Designate Equipment Requirements
Develop Evaluation and Monitoring Instruments

STEP VII: IMPLEMENT THE PROGRAM

Select and Train the Instructional Staff
Consider a Learning Contract

STEP VIII: EVALUATE AND MONITOR THE TRAINING PROGRAM

Carry Out Initial Evaluation
Begin On-going Program Monitoring
Connect Back to Management

Getting the Job Done: How Does the Process Work?

Following is an *executive summary* of the innovative applied approach model for establishing a training program to provide basic workplace skills. Based on input from experts and practitioners, extensive review of state-of-the-art literature, and seminal work in instructional systems design by the U.S. military, the model is a blueprint for successful establishment and implementation of a Workplace Basics Program.

The model itself can be found in ASTD's forthcoming book on Workplace Basics. In addition, it is the foundation of an instructional manual for mounting a Workplace Basics effort. Both the book and the manual will be available from Jossey-Bass publishers in 1989.

The following steps do not need to be followed sequentially. However, if all steps are covered, the chances of establishing and impelementing a successful Workplace Basics program are enhanced significantly. As in baseball, to score a "home run" you have to touch all the bases!

STEP I: IDENTIFY JOB CHANGES OR PROBLEMS THAT MAY REQUIRE BASIC WORKPLACE SKILLS TRAINING

The first hint of basic skills problems may appear, for example, in a supervisor's report on the slower-than-anticipated integration of a new machine on the shop floor. The new quality circle program—which relies so heavily on teamwork—may be going badly because employees "aren't getting along." Or problems may surface when employees "self-report" that they need help to successfully handle new responsibilities.

But the hint or appearance of a problem is not sufficient; more information is needed. The key to winning management and union support for establishing a Workplace Basics program lies in good, solid front-end work.

Assess the Extent of the Problem

How far-reaching is the workplace basics problem? An investigation into the size and scope of the challenge ahead is essential to determine the appropriate level of response.

The first step is to assess the extent of the skills problem and consider options for mitigating it. Is training the only solution? Sometimes, the solution to a problem is not training, but modification of written materials, a change in policy, new technology, and so forth.

Treating the visible signs of distress, however, may only provide temporary relief. While such signs should be kept in perspective, they could be symptomatic. Initial reactive measures should be followed by a shift into a proactive posture. Specific instances of workplace basics problems could be the tip of the iceberg—key indicators of broader-based organization-wide distress. Undetected and unchecked, such problems can affect safety, integration of new tech-

y or processes, or individual career
pment.
tomer complaints about quality or super-
' reports of difficulty in instituting work-
changes could be important signals.
ever a worker self-reports basic ski''s
ems and seeks help, it could be an indica-
f a more pervasive problem. Other work-
y lack not only the skills, but the courage
ne forward and seek help.

a Company-Wide Representative
ory Committee

olvement of employee representatives as
ers during the investigation and through-
e workplace basics effort is essential. The
method for accomplishing this is to
lish a representative task force or ad-
y committee.
ically, such committees include represen-
s from the training and human resources
rtment, operational department heads or
visors directly affected by any proposed
ng program, plant managers, union or
employee representatives, and employees
elves. The committee should be carefully
ructed. It is an important vehicle for
ing company-wide acceptance for the
ng program.
ore group from the committee should be
nated as the task analysis subcommittee.
ns with expert knowledge of the jobs to be
zed could be asked to serve on job-specific
w committees that will validate the final
listing for each job or job family in their
reas of expertise.
important, politically and strategically
velop a strategy for gaining employee ac-
nce of the program. The program should
ghly visible and publicized in employee
letters or notices posted on bulletin
ds. It is particularly important that em-
es know the start-up date for training and
erson to contact for more information.
oyee representatives should be briefed
nlisted to spread the word that the pro-
will not jeopardize anyone's employment
. The positive aspects of the program
d always command center stage. It should
omoted as an effort to improve company-wide technical readiness; offer employees a chance for improving their promotion possibilities; and maximize limited training dollars to improve both company and individual performance.

Sensitivity is important because the potential for misunderstanding is great. Employees need to be reassured that the investigation will not result in loss of jobs. If they know what is going on and why, they are more likely to support the establishment of a training program. Without employee concurrence and cooperation, the Workplace Basics program will never leave the launching pad.

Analyze Selected Jobs

After the investigation, comes job analysis.

When selecting jobs for analysis, "proceed with caution." Analysis may be limited to those jobs that have been identified through managers' reports about employee deficiencies or through difficulties that employees self-report. But if there is any suspicion that these reports are indicative of a larger problem, more analyses should be conducted.

The first step in job analysis is to acquire job descriptions, which are general summaries of what a person does on a job and the conditions under which he or she works. In larger companies, job descriptions are usually found on file in company personnel offices. Companies that do not maintain job description files can find adequate substitutes in the *Dictionary of Occupational Titles* published by the U.S. Department of Labor or through a literature search on job descriptions developed by other companies in their industry or related industries.

Obviously, a job description is only the outline of a job. The second step in the job analysis process is to analyze the job description. This identifies the duties of a job or family of jobs and the basic workplace skills required to perform these duties.

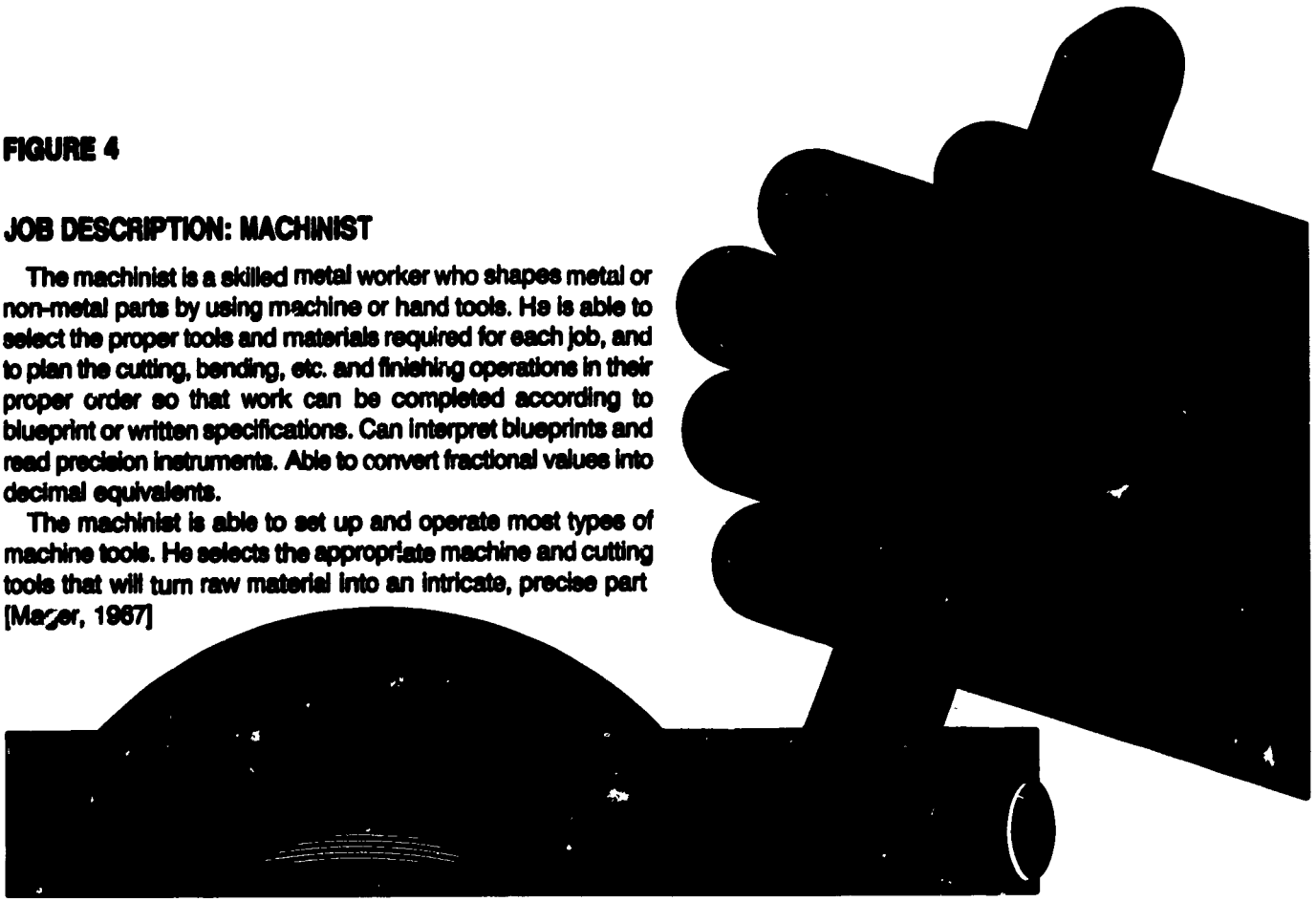
Job description research and analysis does not require a heavy commitment of staff or dollars up-front. The activity can be carried out by in-house personnel with some experience in job analysis. If no experienced in-house person is available, an outside expert can be hired to perform this limited task at relatively little cost.

FIGURE 4

JOB DESCRIPTION: MACHINIST

The machinist is a skilled metal worker who shapes metal or non-metal parts by using machine or hand tools. He is able to select the proper tools and materials required for each job, and to plan the cutting, bending, etc. and finishing operations in their proper order so that work can be completed according to blueprint or written specifications. Can interpret blueprints and read precision instruments. Able to convert fractional values into decimal equivalents.

The machinist is able to set up and operate most types of machine tools. He selects the appropriate machine and cutting tools that will turn raw material into an intricate, precise part [Mager, 1967]



Document Employee Performance Deficiencies

After job analysis is completed, information must be documented about the performance of individual employees or groups of employees in the selected jobs.

At this time, it is important to have a preliminary idea of who will receive training in workplace basics. This information will provide a rough size and scope of the problem and will be necessary for making an effective case to establish a training program. In addition, this groundwork provides the foundation for more sophisticated targeting of trainee populations for tailored curriculum design (Step V).

Training that is critical to employer need, however, is frequently required as a condition of employment or promotion. In this case, the most cost-effective approach is to link the basic workplace skills training directly to the job through the applied approach described in this model.

Identify Population to be Targeted for Training

The term "required training" often raises employee fears that the training is a management scheme for weeding out the less-effective members of the workforce. Employees and their representatives should, therefore, be involved throughout the crafting of the basic workplace skills program, and especially during the development of the training curriculum.

The way that required training is presented is very important. The goal is to put employees at ease and to make the training experience a positive one. Employees should be assured that the employer values them and will keep information about their participation confidential. Any public characterizations that might expose personal deficiencies should be avoided. Opportunities should be provided for employees to jointly identify and agree upon their learning goals with their managers. They can accomplish this through a learning-by-objectives (LBO) process, for example.

Build Cooperation With Unions

The chances of establishing a successful basic workplace skills program increase when management and unions provide support. Unions can work as partners with management in setting goals, providing funding, selecting course content and training providers, or in locating volunteers from the rank and file who can be trained to be basic workplace skill trainers.

Enlisting the union or employee representative to help explain the process to the employees, the job analyst must gather employee performance data by means of the following: informal conversations with workers, supervisors or union representatives; observation of workers; surveys; reviewing union grievance records; analyzing performance appraisals or exit interviews, and so on.

The skill profiles of prior job holders can also be resources for performance data if there is a skills match with current job holders. At minimum, such profiles can provide a useful and nonthreatening starting point to analyze basic workplace skill requirements for a particular job family.

Good record keeping is essential. Information gathered at this stage may be useful later to target potential trainees, support training budget requests, or answer inquiries about the need to establish a basic workplace skills training program.

Inquiry into the need for training must be consistent throughout this stage. Are the performance problems, in fact, caused by skill deficiencies? Or are other factors creating these problems—factors such as an insufficient incentive system, a need for more selective recruiting, an inadequate equipment maintenance schedule, poor union-management relations, and so on? Training may not be the appropriate remedy for what ails the employer. Other corrective action such as redesigning hiring specifications, changing equipment maintenance schedules, or rewriting manuals may be more realistic solutions.

BUILD MANAGEMENT AND UNION SUPPORT FOR SKILLS TRAINING PROGRAMS IN WORKPLACE BASICS

STEP II:

Once training is identified as the right solution, the advocacy process begins. To be successful, an advocate of workplace basics must skillfully use two tools—logic and politics.

The case for establishing a Workplace Basics Program rests on a foundation of data collected through Step I. It must be a *proactive* case that illustrates the impact of basic workplace skills deficiencies on the employer's ability to operate effectively. Left unchecked, will basic workplace skills deficiencies affect the employer's bottom line? What is the impact on productivity, quality, or safety? Has the introduction of new technology or production processes been impaired?

Being proactive also means anticipating how basic workplace skills deficiencies will affect the employer's future plans. Will implementation of strategic changes be hampered? Can product diversification or customization strategies be successful given employees' current skills? Can the workforce cope with proposed shifts in organizational philosophy or management practices that demand a higher *base* of skills?

The logical arguments for establishing a workplace basics program can be persuasive. But success in making the case and in sustaining an organizational commitment to a training program often rests on less tangible factors. There must be a base of support for launching a basic workplace skills program. Politics comes into play.

Leaders who might support a workplace basics training program need to be courted. Support from influential managers, union officials, employee representatives, and the in-

formal leadership structure is critical to successfully launching a program. Ideally, leadership on this issue from the Chief Executive Officer (CEO) provides tremendous leverage in getting support from other levels of the institutional hierarchy, as well as from top union officials or the board of directors.

Coalition building is also essential. The process of coalition building should begin by securing commitment from a respected leadership figure in the formal or informal authority structure of the institution. Here again, the CEO is ideal for this role, but coalition leadership may also come from farther down the management ladder from members of the governing board or from employee representatives. Effective coalition leaders are those who can communicate both horizontally and vertically throughout the organization and who can forge networks of allies.

To be most effective, coalitions must include representative stakeholders from both the institution's formal and informal authority structures. Mistrust or resistance to the program can be short-circuited by involving nonsupervisory employees. Union or employee representatives can play important roles in reducing employee anxieties about the program. One effective method of building coalitions is to carefully craft some formal or informal stakeholder committees or advisory groups to garner expanded support throughout all levels of the organization. To maximize the impact of this political effort, all commitments for support should be leveraged to build additional support and gather additional allies.

This is also the time to begin laying the groundwork for a sustained institutional commitment to the training program. Leadership is a powerful and necessary ingredient for launching any program, but it is fragile and often temporary. Programs that flourish under one leader often wither when that leader's tenure ends—unless the leadership vision is institutionalized through administrative processes and structures. Budget and staffing commitments are key here, but they too will be seen as temporary solutions unless basic workplace skills training is linked to the strategic decision-making structure of the employer.

Efforts to build institutional commitment must focus on "destigmatizing" basic workplace skills training by making it an accepted and integral part of the employer's overall training agenda rather than a remedial add-on. Whenever training needs are being examined, questions about basic workplace skills deficiencies should be part of that discussion. With training including basic workplace skills linked to the strategic management process, inventorying of employee skills including the basics will become somewhat routine, triggered by the anticipation of events such as shifts in institutional strategies, creation of new jobs, or new safety regulations.

STEP IX: PRESENT STRATEGY AND ACTION PLAN TO MANAGEMENT AND UNIONS FOR APPROVAL

While the workplace basics advocate constructs a base of support, he or she must also be developing an action plan for establishing a basic workplace skills training program. Once developed, the plan should be presented for the approval of management and labor. It should anticipate and address employee concerns. If the union is proposed as a training program co-funder and operator, it will need to have an equal vote with management in order for the program to advance toward its goals.

A formal meeting with key decision-makers should be requested to brief them on the plan.

Written copies of the plan should be provided to each person responsible for approving the proposal. Both the plan and the presentation should be comprehensive and concise and include these items:

- Conclusions that can be drawn from (Step I) preliminary research;
- Strategic implications of those findings;
- A recommendation that a program be developed;
- Options for establishing a training program (include a rough cost analysis; timeframe; program content, responsibilities and design; profile of barriers to implementation such as cost, staffing, and so on.); and
- The recommended option based on cost versus benefit to the employer.

An important part of the training proposal is consideration of whether an outside training provider should be called in to assist with all or part of the training program. Would an outside provider be needed to design and develop customized training or provide an off-the-shelf training program? Should a combination of in-house expertise and outside consultation be used?

If the answer is to seek outside help, there are a variety of sources. Local school districts, community colleges and universities, nonprofit literacy groups, for-profit organizations and individuals, private industry councils (PICs), and others in the community can supplement in-house expertise.Small businesses (fewer than 500 employees) should also consider larger local employers as potential providers. Larger companies may be willing and interested in allowing access to their training for a fee. If proprietary rights are not an issue, these companies may choose to provide a smaller company with copies of already developed curricula for use free of charge or under a contractual arrangement.

Because outside providers have varying strengths and weaknesses, and not all will be equally suitable, a competitive bidding process or request for proposal (RFP) is a useful tool for finding a resource that meets specific employer needs. But before a selection is made, the following minimum information about those providers under consideration for the job should be gathered:

- experience with training in an applied context;
- experience in working with adults over 21;
- approach to program design and development;
- capability to perform the designated tasks;
- prior experience and success rate;
- cost and time requirements; and
- references.

The hiring agent must proceed with caution, and be clear and exact about required services.

STEP IV:

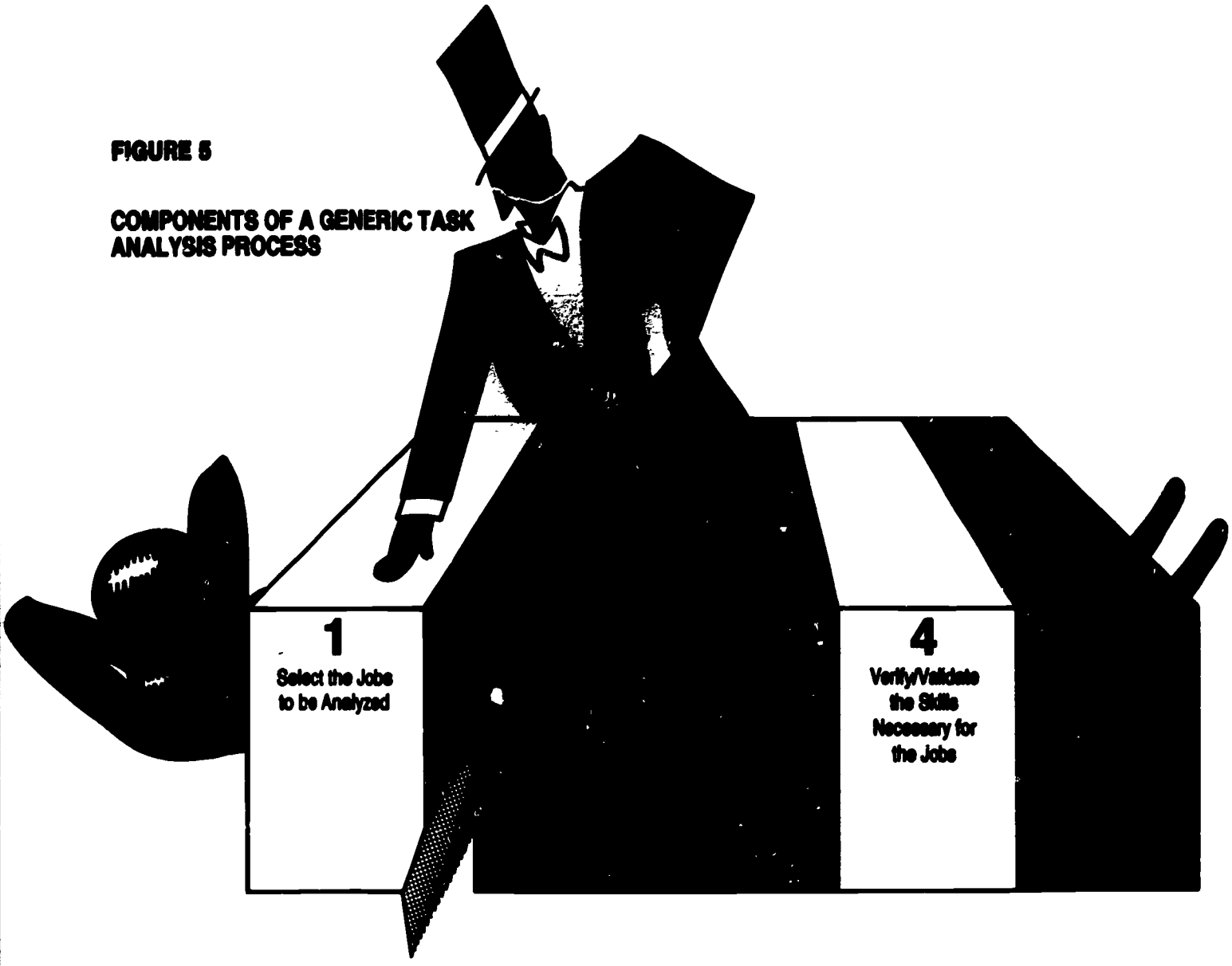
PERFORM A TASK ANALYSIS ON EACH SELECTED JOB OR JOB FAMILY

The next step is to identify those skills required to perform the tasks and duties of the specific jobs featured in the workplace basics training. This process or *task analysis* is keyed to the competencies actually required to perform work in the targeted jobs. It is a more in-depth and structured look at the descriptions of job duties that were prepared in Step I—the initial investigation.

An accurate task analysis lays the foundation for a good instructional program. With information gained from the task analysis, instruc-

FIGURE 5

COMPONENTS OF A GENERIC TASK ANALYSIS PROCESS



tors can develop lessons on those skills, knowledge, and attitudes learners need to perform a job successfully.

In any task analysis, the first steps are to review all related literature on the subject and collect all available task listings, comprehensive lists of those tasks performed by workers on a particular job. There are many excellent published listings of job tasks that can be obtained from such institutions as The National Center for Vocational Education, The Ohio State University, The V-TEC's Consortium, and several state education agencies.

In all instances, but particularly where existing task listings are being adapted, it is crucial for task analyses to be accurate and validated by company employees familiar with the job.

The task analysis usually breaks a job into three component parts. The *task listing* is a comprehensive list of tasks performed by workers on a job. The *task detailing*—a systematic breakdown of each task to determine the skills, sequencing, knowledge, and attitudes an individual needs to know to perform a single task successfully. The *task inventory* consists of lists of duties and tasks and questions for incumbent workers about the way a task is performed.

There are many techniques for performing a task analysis. Some commonly in use include open-ended or closed questionnaires, individual or group interviews, observation of workers

on the job, and analysis of existing documents such as manuals or other instructional materials.

Some sophisticated methodologies have been developed that combine several of these techniques into integrated systems for performing task analyses. These include DACUM [*Developing A Curriculum*] by the National Academy for Vocational Education; the Adult Competency Education (ACE) Project, based on a taxonomy of basic skills common to 75 jobs; and the literacy task analysis developed by Professor Larry Mikulecky, director of the Learning Skills Center, at Indiana University.

The entire process of task analysis can be distilled into several generic components. The chart on page 26 illustrates the basic tenets of that generic approach.

Any model for analysis must be based in obtaining information from expert or highly skilled workers. Without this type of input, information on how a job ought to be performed is simply speculation.

STEP V:

DESIGN THE CURRICULUM

To ensure continuity throughout program design, development and implementation, the position of program manager should be filled no later than the design stage. Other key personnel may also be hired early on, depending on the internal needs of the organization. These key personnel should play an integral role throughout the evolution of the program. The curriculum stage includes design of the instructional program, consideration of the evaluation instruments and process, design of a recordkeeping system and crafting of an operational budget.

Curriculum design is strongly influenced by the duties and tasks of the targeted jobs. But it should also take into account the trainees. Often, employers will make basic workplace skills training programs available as an employee benefit. Such programs are for employees who are seeking self-improvement or who sense that keeping a job or securing a promotion is not possible without improving their skills. Basic workplace skills programs of this kind are generally not driven by the economic or strategic needs of the employer and, therefore, do not necessarily need to be linked to the employee's job.

In such cases, it is often more cost-effective for an employer to have an external provider design a generalized curriculum for a particular workplace skill, or to simply provide tuition reimbursement for basic workplace skills training that the employee selects from an outside provider.

Design a Performance-Based/ Functional Context Instructional Program

Most state-of-the-art training designs today are performance-based and focus on the trainee mastering those tasks that have been designated essential for successful performance on the job. Standards for successful performance are clear, and success is measured by learning, not by the amount of time the employee takes to perform the task.

This approach is particularly effective for adults when it is combined with a functional context learning methodology that uses job-related materials and concepts as the basis for training. The functional context approach is geared toward filling in the gap between what the trainee already knows and what he needs to know to be effective on the job. It takes into account the existing knowledge and skills of the trainee and builds upon them.

At the heart of the design process for a performance based/functional context curriculum are two key concepts: written performance objectives and criterion-referenced testing. Performance objectives are essential to measuring training success and should be written for each task selected for training. In a performance-based system, learners need to master only what they do not already know to successfully carry out a specific task. Therefore, the objectives should specify what the learners are currently able to do on the job, the conditions under which they must perform while demonstrating mastery of the objective, and the desired future level of performance.

Criterion-referenced testing involves pre- and post-training test phases. The pre-training test phase is diagnostic, and determines where employee skill deficiencies lie. Post-training criterion tests should be of the identical length and format as the pre-test, but test only those task behaviors treated during the instructional program. Criterion-referenced tests emphasize learner performance. Their objective is to verify the learner's mastery of tasks identified in the performance objectives. Construction of relevant, functional pre-and post-tests is accomplished most effectively after the performance objectives have been written and the learning materials developed.

Using a performance-based approach accelerates the learning process and enhances learner retention. For example, an individual who is working as a machinist, but already knows how to change fractions into decimals, would not be required to relearn this skill during training. He or she would move on to new areas of learning.

Evaluation Instruments, Recordkeeping, and Documentation

During this stage of the design process, it is important to consider how the training program will be evaluated, what records are important, and how much it will cost to operate the program.

Without sound, objective training evaluation, we have only subjective assessments of value and success. In these times of tight resources, that is not enough to justify continuing a training program. Evaluation must be keyed to discovering the most appropriate and cost-effective training response and to illustrating how that training helps the organization meet its strategic goals.

Although viewed traditionally as a final activity of a training program, evaluation must be planned during the training design phase. Good evaluation design identifies program procedures for collecting, interpreting and reporting data and specifies when and from whom program data will be collected. Such a design ensures steps for gathering information that the evaluator will use to compare pre- and post-program behavior and draw conclusions. (See Step VIII for a more detailed discussion of evaluation).

Another important step during the design stage is to establish a documentation process to collect, record, analyze, and report accurate data on individual learners' progress and performance. This documentation should provide written proof that the training occurred, as well as evidence that it was provided according to the curriculum design.

At this stage a good recordkeeping system should also be designed that should include employee learning contracts and other types of back-up documentation. Decisions on how record keeping will be done (manually or by computer) and by whom, as well as how extensive it will be, will determine the design of the forms to be developed. Only data directly related to the training should be included such as attendance, hours of instruction, pre- and post-skill test results, employee educational background.

Budgeting

This is also the time to consider the budget implications of program operation.Before extensive time and energy go into the development of curriculum materials, a final implementation budget should be presented to management for approval and the go-ahead to implement the training program.

VELOP THE CURRICULUM

The process of curriculum development involves crafting the curriculum; integrating instructional chniques; pinpointing delivery stems, facilities and equipment; d the development of measure- ent tools.

he three major steps in developing a curric- m are:

Prepare the course outline.—"What tasks do rners need to master before they can per- m this task?" The tasks should be put in pri- ty order, as they will be presented during truction, moving from simplest to most com- ex. Because the goal of instruction is im- oved job performance,the tasks should be quenced according to which ones will be ost important for the employee to master in der to achieve that goal.

•*Develop individual lesson plans.*—The lesson an should identify what the learner actually eds to do on the job, not what the instructor ight like to teach. The focus should be on task tails and performance objectives.

•*Develop instructional materials.*—Materials ould be developed or adapted from existing sources where appropriate. Only material at will help the learner satisfy the perfor- ance objectives should be selected for each sk. Material should be at the level, or move ward the level the learner will use on the job. void any material developed specifically for children. Research shows that adults learn differently from children and their learning styles also differ.)

The process of curriculum development also involves selecting instructional techniques that will minimize costs without affecting the quality of results. The techniques used will determine the type of facility, the number of instructional personnel, the cost of producing original materials, and so on. All of these factors, plus the impact on individual learning, must be taken into consideration.

Several delivery systems can be used to present instructional material, all of which have varying strengths and weaknesses. These include traditional classroom, multimedia classroom, tutored video classroom, interactive TV classroom, self-study, guided learning center, computer-based training (CBT), and interactive videodisc with personal computer.

The next step is to make decisions about facilities and hardware. Selecting appropriate facilities and training equipment depends on a number of variables including the type of learning required (heavy equipment, production line, office); instructional strategies selected (computer-assisted; traditional classroom, self-study); location (on- or off-site); number of learners (few or many); budgetary restrictions; time available for training; training presenter (in-house or external); and the curriculum.

The final step is to develop evaluation and monitoring instruments. The development process should include line managers and supervisors, to establish a common perspective on the kind of training needed and the standards that constitute improved work performance after training.

STEP VI:

MPLEMENT THE PROGRAM

One of the most important activities during the early implementation period is moving the employee awareness campaign in high gear to "talk up" the new training program. Meetings should be scheduled to answer employee questions and present a positive view of the program. Information about the training should also be prominently displayed in employee newsletters and on bulletin boards.

Another important part of the early im-

STEP VII:

FIGURE 6

SELECTING INSTRUCTIONAL STAFF: A CHECKLIST

- ☑ Is the person familiar with adult learning and the psychology of learning?
- ☐ Has the person a history of actually working with adults and what kind of evaluation feedback is available on performance?
- ☐ What is the level of subject expertise?
- ☐ Will the person be comfortable using new subject curricula and instructional approaches that are not school based?
- ☐ Does the person have experience teaching basic workplace skills in a job-related context?
- ☐ Will the person be responsive to company requirements and working with company personnel?

plementation period is staff selection. By this stage, the program manager should be onboard and have actively participated in the development of the training program design. The manager is also responsible for developing all program operating objectives; planning, organizing, staffing, and supervising the training project; and evaluating and linking the training program to the employer's operations and goals.The individual selected for this position should have a substantial knowledge of the employer's corporate culture and practices, as well as a background in adult education, training, and evaluation.

As part of the staffing function, the manager may select an outside provider to assist with all or part of the training program. Whether the program is to be provided by in-house or external staff, there are a number of key staff positions that must be filled.

The second most important staff position is program administrator. The administrator evaluates instructional staff performance, selects facilities and equipment; schedules instructional staff, ensures that course material is prepared and available; and assures program follow-up. This individual should have a strong background in project management, and instructional technology, some background and experience in working with adults, and some experience using evaluation techniques.

Together the program manager and program administrator should select the instructional staff. Successful instructors in job-related basic workplace training programs must have special skills as shown in the checklist to the left.

Few companies can afford to hire full time instructors of basic workplace skills, but there are other options. Experienced employees and managers may take train-the-trainer courses to become part- or full-time peer trainers. They should also receive special training in instructional techniques and support counseling. Peer trainers will be most effective if paired with professional trainers. Together these two instructional staffs can also facilitate company-wide employee "buy-in" in a manner that cannot be replicated in any other way.

Other options include contracting with an external provider for program delivery or hiring part-time instructors from outside the organization. With creative scheduling, these approaches can have a payoff in flexibility and quality programming.

It is also important to consider counseling an integral part of a successful training program. Many employees will not have been in a formal learning situation for some time and will be afraid of failure. Some will also have had negative experiences in school and will be anxious about whether they will perform well in this new program. Providing a counselor to communicate the company's commitment to suc-

cessful learning is a necessary reinforcement mechanism. While counseling may be handled by instructional staff, a separate counseling staff is recommended.

The performance-based training approach uses a "competency profile" to track trainee progress toward acquiring competencies for a particular functional job or area. Additional documentation might include the learning contract, which details learning objectives and measures of achievement; records of attendance and hours of instruction; pre- and post-test results; or trainee educational background information, and so on.

EVALUATE AND MONITOR THE TRAINING PROGRAM

STEP VIII:

Evaluation provides information about the efficiency, effectiveness, and usefulness of the program. Without evaluation there is no objective way to determine whether or not training has made a difference.

Once a program has completed at least one cycle and employees have returned to their work stations, evaluation can begin. The design, development, and implementation establishes the groundwork for effective evaluation. Available data sources should include surveys of trainee reactions, pre- and post-tests to measure learning, observation of employee behavior, and interviews. It should identify changes—such as productivity improvements, cost reductions, quality improvements, or reduced turnover—that have occurred in the workplace since the training. All factors must be considered when evaluating the effectiveness of training. No one factor alone will provide accurate feedback.

Evaluation should be performed periodically to determine whether or not program goals are being met. Also important, program monitoring provides continual feedback on whether instruction is working well from day to day. Usually, personnel trained specially in evaluation techniques or an independent evaluation specialists carry out program evaluation. Program monitoring falls within the domain of the program manager, project administrator and instructional staff.

Monitoring and evaluation should be viewed as "living processes." Together they provide the information for adjusting and improving the program design to assure efficient, and effective delivery of the basic workplace skills training program.

Because the applied approach to training in workplace basics is one that emphasizes relevance to the workplace and to employer need, evaluation and monitoring are especially important. They provide the basic data for making the case to management that training is important to the organization's strategic goals and daily operations.

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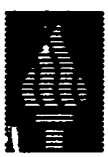

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